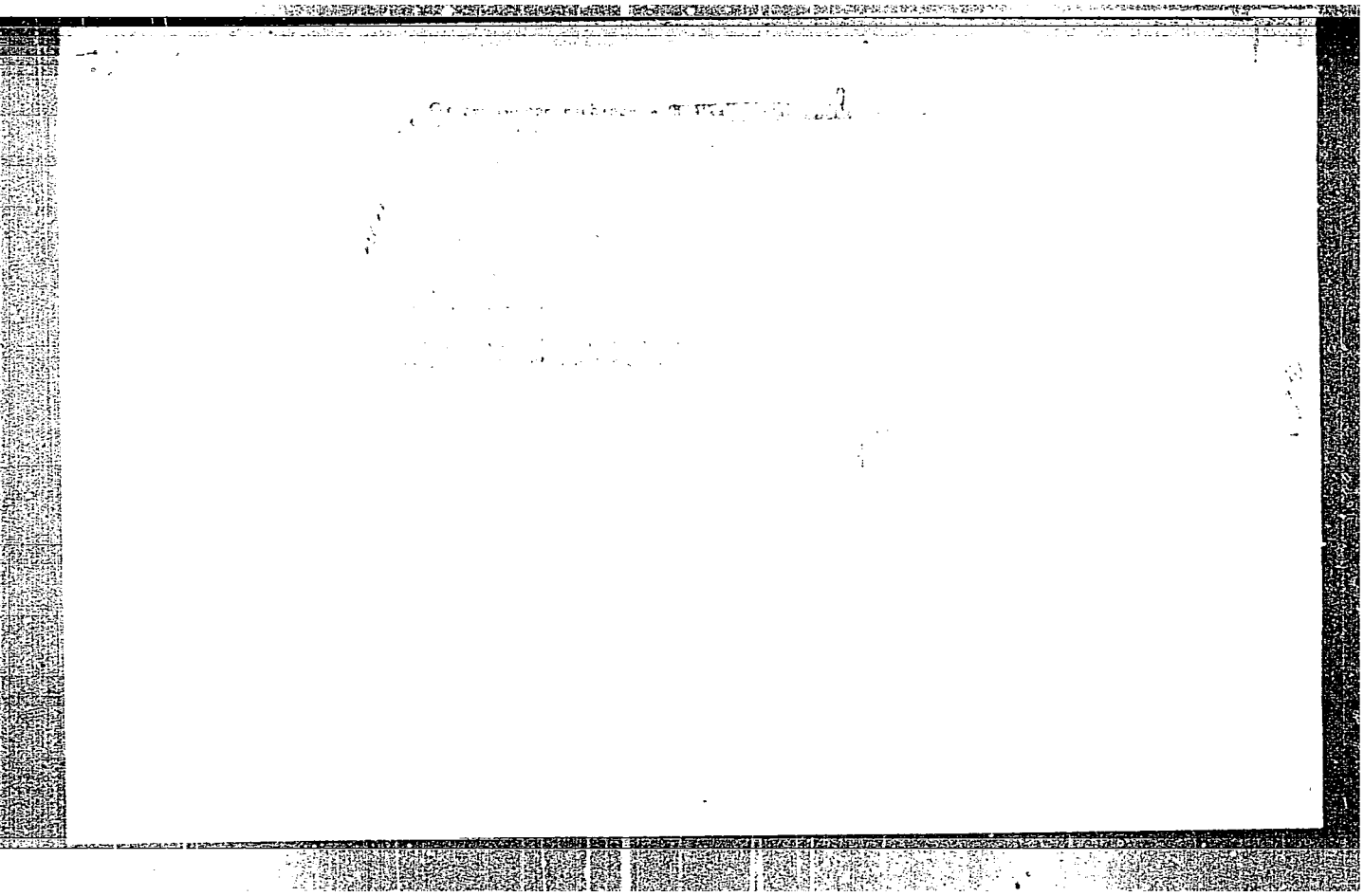

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413210014-5"

SPITSYN, Virt. I., FINIKOV, V. G.

"Study of the Isotopic Exchange Between Gaseous Oxygen and Salts of Certain Oxygen-Containing Acids at High Temperatures."

FINIKOV, V.G.

SPITSYN, Vikt.I.; FINIKOV, V.G.

Study of isotope exchange between gaseous oxygen and salts of several oxygen containing acids, at high temperature. Probl. kin. i kat. 9: 264-266 '57. (MIRA 11:3)

(Alkali metal sulfates) (Oxygen--Isotopes)
(Chemical reaction--Conditions and laws)

SOV/78-3-9-12/38

AUTHORS: Shishkin, N. V., (Deceased) Krogius, Ye. A., Finikov, V. G.

TITLE: On the Nature of Some Iron Phosphates (O prirode nekotorykh fosfatov zheleza)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2075-2081 (USSR)

ABSTRACT: The nature of iron phosphates and their kinetic interaction were investigated microscopically and by the determination of several physical properties of the solid phases formed. Iron phosphate of the formula $3Fe_2O_3 \cdot 8P_2O_5 \cdot 23H_2O$ was prepared and its oxonium nature was ascertained. The ammonium salt of this phosphate was prepared and its formula was determined to be: $3Fe_2O_3 \cdot 8P_2O_5 \cdot (NH_4)_2O \cdot 20H_2O$.
The rational formula is as follows:

Card 1/4

On the Nature of Some Iron Phosphates

$$\left\{\begin{array}{l} Fe(H_2PO_4)_2 \\ \diagdown\diagup\ HPO_4 \\ Fe(H_2PO_4)_2 \\ \diagdown\diagup\ HPO_4 \\ Fe(H_2PO_4)_2 \end{array}\right\} \quad NH_4^+ \cdot 3H_2O$$

The two compounds crystallize in a hexagonal system. The specific weight of the compound $3Fe_2O_3 \cdot 8P_2O_5 \cdot 23H_2O$ at 25°C is 2,29 g/cm^3, the refractive index is 1,63. The specific weight of the compound $3Fe_2O_3 \cdot 8P_2O_5 \cdot (NH_4)_2O \cdot 20H_2O$ is 2,32 g/cm^3, the refractive index is 1,604. By Erlenmayer's method Winkler salt was prepared from 48% solution of H_3PO_4. This salt has the following composition: 18,7% Fe and 63,7% PO_4. The formula suggested by Winkler $3Fe_2O_3 \cdot 6P_2O_5 \cdot 25H_2O$ with 3% Fe_2O_3 and 6% P_2O_5 was corrected and its oxonium nature was explained, which

On the Nature of Some Iron Phosphates

is characterized by the following rational-chemical formula:

$$\left\{ \begin{array}{l} Fe(HPO_4) \\ \quad \diagdown \\ \quad\quad HPO_4 \\ \quad\quad\quad \diagdown \\ Fe(H_2PO_4)_2 \\ \quad\quad\quad \diagup \\ \quad\quad HPO_4 \\ \quad \diagup \\ Fe(HPO_4) \end{array} \right\} \quad OH_3^+ \cdot 7\ H_2O$$

The results obtained make necessary a correction of some empirical formulae of the phosphates described in publications. There are 5 tables and 7 references, 3 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet imeni N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy)

5(4) SOV/62-59-7-38/38

AUTHORS: Spitsyn, Vikt. I., Finikov, V. G.

TITLE: On the Isotope Exchange Between Gaseous Oxygen and Some Silicon Compounds (Ob izotopnom obmene mezhdu gazoobraznym kislorodom i nekotorymi soyedineniyami kremniya)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1351 - 1352 (USSR)

ABSTRACT: An investigation was made of the isotope exchange between gaseous oxygen with a content of 1.3% atomic O^{18}, and the silicon compounds SiO_2, K_2SiO_3 and $K_2Si_2O_5$. The investigation method is described in the paper, reference 1. The stability of the compounds mentioned was to be checked. Stability is influenced by the radius in the various anion central atoms and by the expulsion of oxygen ions in the silicate anion. Data concerning the isotope exchange in the compounds mentioned in the temperature range of from 750-800°, are summarized in a table. The activating energy of ion exchange characterizing the stability of the compounds is lower for the potassium metasilicate as compared to sulphate and silicon oxide. It is interesting to note that it is highest for $K_2Si_2O_5$. Finally,

Card 1/2

On the Isotope Exchange Between Gaseous Oxygen and Some Silicon Compounds SOV/62-59-7-38/38

the authors thank Zykova, G. N. and Yu. A. Goryainov for assistance given in carrying out the works. There are 1 table and 2 Soviet references.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED: May 5, 1959

Card 2/2
USCOMM-DC-61,525

SPITSYN, Vikt.I., akademik; FINIKOV, V.G.

Effect of β-radiation from S^{35} on the isotopic exchange of oxygen in the system $Na_2SO_4^{16} - O_2^{18}$. Dokl.AN SSSR 133 no.6:1381-1383 Ag '60. (MIRA 13:8)

1. Institut fizicheskoy khimii Akademii nauk SSSR.
(Oxygen--Isotopes) (Sulfur--Isotopes) (Beta rays)

FINIKOV, V.G.

Determination of the isotopic composition of oxygen in solids. Zhur. anal. khim. 16 no. 4:499-500 Jl-Ag '61. (MIRA 14:7)

1. Institute of Physical Chemistry, Academy of Sciences, U.S.S.R., Moscow.

(Oxygen—Isotopes)

SPITSYN, Vikt.I., akademik; FINIKOV, V.G.; ZYKOVA, G.N.

Isotope exchange between O_2^{18} and molten $Na_2 Wo_4^{16}$. Dokl. AN SSSR 141 no.3:668-669 N '61. (MIRA 14:11)

1. Institut fizicheskoy khimii AN SSSR.
(Oxygen--Isotopes) (Sodium tungstate)

FINIKOV, V.G.; ZYKOVA, G.N. (Moscow)

Isotopic exchange of oxygen in the systems $WO_3 - O_2$ and $Na_2W_4O_{13} - O_2$. Zhur. fiz. khim. 38 no.3:542-546 Mr '64. (MIRA 17:7)

1. Institut fizicheskoy khimii AN SSSR.

FINIKOV, V.G. (Moskow)

Mechanism of the isotopic exchange of oxygen in the systems gas-solid at high temperatures. Zhur. fiz. khim. 38 no.4: 833-838 Ap '64. (MIRA 17:6)

1. Akademiya nauk SSSR, Institut fizicheskoy khimii.

FINIKOV, V.G.

Oxygen isotope exchange in systems gas-melt at 700 -955°C.
Zhur. fiz. khim. 39 no.5:1105-1107 My '65. (MIRA 18:8)

1. Institut fizicheskoy khimii AN SSSR.

FINITIKIKOVA, G. P.; KHAYKINA, A. S.; RACHINSKAYA, A. Z.; MITEL'MAN, P. M.

"Pertussis gamma-globulin from antigacterial and antitoxic horse sera."

Report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists. 1959

FINITSKIY, S.I., inzh.

General overhaul of station bottlenecks. Put' i put. khoz. no.8:12-13 Ag '59. (MIRA 13:3)

1.Nachal'nik otdela puti, zdaniy i sooruzheniy otdeleniya dorogi, g.Michurinsk.
(Kochetovka--Railroads--Maintenance and repair)

BLAGOVIDOV, D.F.; POMEL'TSOV, A.N.; FINK, A.S.; ANDRUSHCHENKO, Ye.S.

Experimental sclerosing pancreatitis caused by punctate thermocoagulation. Eksper. khir. i anest. 9 no.6:38-41 N-D '64.
(MIRA 18:7)

1. Patofiziologicheskaya laboratoriya TSentral'noy klinicheskoy bol'nitsy (glavnyy vrach - A.I.Khrumlyan), 1.-ya bol'nitsa (glavnyy vrach - dotsent V.G.Bezzubik) 4-go glavnogo upravleniya pri Ministerstve zdravookhraneniya SSSR i Otdel patologicheskoy anatomii (zav. - prof. D.S.Sarkisov) Instituta khirurgii imeni A.V.Vishnevskogo (direktor - deystvitel'nyy chlen AMN SSSR prof. A.A.Vishnevskiy) AMN SSSR, Moskva.

FINK, Branko, dr.

Pruritus ani cured by the plastic method of Young and Scott. Lijecn. vjesn. 83 no.10:1053-1056 '61.

1. Iz Kirurskog odjela Opce bolnice Susak, Medicinski fakultet u Rijeci.

(PRURITUS surg) (ANUS dis)

FINK, Branko, Dr.

Use of venous grafts in mechanical injuries of the femoral artery. Lijec vjes 82 no.5:403-406 '60.

1. Iz Opce bolnice Susak u Rijeci
(FEMORAL ARTERY wds & inj)
(VEINS transpl)

FINK, D.A.

Effectiveness of salicylic therapy in acute rheumatism. Terap. arkh. 27 no.1:10-17 '55. (MLRA 8:7)

1. Iz 1-go terapevticheskogo otdeleniya (nauchnyy rukovoditel' prof. A.L.Vilkovyskiy) TSentral'noy klinicheskoy bol'nitsy MPS i kafedry terapii (zav. chlen-korrespondent AMN SSSR prof. P.I. Yegorov) TsIU.

(RHEUMATIC FEVER, therapy, salicylates)
(SALICYLATES, therapeutic use, rheum. fever)

KOZLOV, L.M.; FINK, E.F. (Kazan')

Condensation of nitroparaffins with olefins containing an activating group. Report No.2. Trudy KKHTI no.21:163-166 '56. (MIRA 12:11)
(Paraffins) (Olefins)

KOZLOV, L.M.; FINK, E.F.

Condensation of nitro paraffins with 2-chlorocyclohexanone and with 2,6-dibenzalcyclohexanone. Trudy KKHTI no.26:53-58 '59.
(MIRA 15:5)

(Paraffins) (Cyclohexanone)

FINK, G.

CATEGORY :

ABS. JOUR. : RZKhim., No. 19 1959, No. 67820

AUTHOR :

INST. :

TITLE : [illegible] by the Standardization Law of Fuel Consumption

CRIG. PUB. : Elektrotech, 9, No 5, 128-13, (1958)

ABSTRACT : The author discusses methods for setting norms for fuel consumption. A distinction is made between the following types of norms: (A) norms established for a particular enterprise on the basis of standards and technical calculations and taking into account the condition of the equipment and its productivity; (B) norms established on the basis of experience obtained on similar enterprises and on the basis of statistical data; and (C) norms established for heating

CARD : 1/3

AUTHOR :

TITLE :

SOURCE : Ref. Zh. Khimiya, No. 22 1958, No. 73610

REVIEWED :

TITLE :

SOURCE :

ABSTRACT : equipment of new design for which no operating experience is available. The author recommends that fuel consumption norms be calculated on the basis of kilocal per 1 kg of fired products. Statistics are presented on the fuel consumption of representative brickmaking, porcelain, glass, and refractories plants, depending on the productivity of the plants, the degree of utilization of productive capacity, and the external [sic] temperature. The author notes that th extrac-

CARD: 2/3

217

COUNTRY : USSR
CATEGORY :

ABS. JOUR. : RZKhim., No. 16 1959, No. 57820

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : lishment of technically-based norms will lead to discovery of ways and means of reducing fuel consumption.

P. Berenshteyn

CARD: 3/3

FINK, Il'ya

"Paths of fish" by Mikhail Zaborskii. Reviewed by Il'ia Fomin.
IUn. nat. no.10:21 O '62. (MIRA 15:11)
(Fishing)

FINK, Ivan, ing

Ferrite core as switching element in modern telephone exchanges. I. (To be contd.) Elektr vest 27 no.11/12:390-392 N-D '59. (EEAI 10:1)

1. Tovarna elektrotehnicnih in finomehanicnih izdelkov "Iskra," Kranj.
(Telephone) (Electric switchgear) (Ferrites)

FINK, Ivan, ing.

A ferrite core as the switching element in modern tlephone exchanges. II. (Conclusion). Elektr vest 28 no.3/5:73-75 Mr-Ap '60. (EEAI 10:5)

1. Tovarna Iskra, Kranj.
(Telephone) (Electric switchgear)
(Magnetic cores)

FINK, Ivan, ing.; MIHEV, Aleksander, ing.

Possibilities of the utilization of ferrite cores in industrial control equipment. Automatika 2 no.3:155-161 Ag '61

(Automatic control) (Ferrite)

FINK, Ivan, ing.

Ferrite core as the switching element in modern telephone exchanges. II. Elektr vest 28 no.3/5:73-75 '60.

1. Tovarna "Iskra", Kranj.

FINK, Ivan, inz.

Use of electronics in telephonic installations. Elektr vest 30 no.1/2:24-30 '62/'63.

1. Address: Zavod za avtomatizacijo, Ljubljana.

FINK, Ivan, dipl. inz.

The EATC-100 electronic automatic telephone exchange for 100 extensions. Elektr vest 17 no.1/2:17-24 Ja-F '64.

1. Institute of Automation, Ljubljana.

Fink, I. F.

FINK, I.F.

Autumn phenology of Anopheles maculipennis messeae and the season for ending antimalarial measures in Orsk, Chkalov Province. Med. paraz. i paraz.bol.supplement to no.1:34-36 '57. (MIRA 11:1)

1. Iz Orskoy gorodskoy protivomalyariynoy stantsii.
(ORSK--MOSQUITOES)

FINK, I.F.

Results of spring and summer observations of Anopheles maculipennis in Orsk, Orenburg Province, during a twelve-year period (1943-1954) Med.paraz. i paraz.bol. 27 no.6:734-735 N-D '58. (MIRA 12:2)

1. Iz Orskoy gorodskoy sanitarno-epidemiologicheskoy stantsii. (ORSK--MOSQUITOES)

FINK, I. G.

USSR/Engineering - Machines

Card 1/1 : Pub. 70 - 8/11

Authors : Urusov, M. M.; Fink, I. G.; and Fioletov, I. S., Engineers

Title : Conveyer-belt type vacuum press SM-142

Periodical : Mekh. stroi. 4, 22-24, Apr 1954

Abstract : The technical characteristics of a conveyer-belt type vacuum press SM-142, used in the manufacture of structural bricks, are described. The press, manufactured at the Krasnyy Oktyabr Plant of the Ministry of Heavy Machine Industry, was tested at one of the largest brick producing factories and the results are listed. Drawing.

Institution : .....

Submitted : .....

FINK, Julius, dr., foiskolai tanar (Becs)

Surface formation on the eastern border of the Alps. Foldr kozl 11 no.2:141-144 '63.

FINK, K.

FINK, K. Hardness and ductility. p. 305.

Vol. 12, no. 1/4, 1954, Budapest, Hungary KOZLEMENYEI

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 3, March, 1956

FINK, K.G.

Vladimir Aleksandrovich Vasil'ev; on the 80th anniversary of his birth. Izv. Kir. fil. Geog. ob-va SSSR no.4:94-96 '63. (MIRA 16:12)

GOLDMAN, S., Dr.; FINK, L., dr.

Pneumology and phthisiological practice in bronchial cancer.
Med. glasn. 10 no.11-12:481-483 Nov-Dec 56.

1. Institut za tuberkulozu na Golniku (upravnik prim. dr.
T. Furlan).
(BRONCHI, neoplasms
differ. diag. from pulm. tuberc. (Ser))
(TUBERCULOSIS, PULMONARY, differ. diag.
cancer of bronchi (Ser))

1. SILENOK, S. FINK, L.
2. USSR (600)
4. Stonecutting
7. Lowering the weight of stone-cutting machinery. Za ekon. mat. no 4: N '52

9. Monthly List of Russian Accessions, Library of Congress, Feb. 1953. Unclassified.

FINK, L., inzhener.

Machinery for clay processing. Stroi. mat. 2 no.11: 38-40 N '56. (MLRA 10:2)

(Brickmaking machinery)

FURLAN, Tomaz; FINK, Leo

Generalized pneumocephalus ans a complication of extrapleural pneumothorax. Tuberkuloza, Beogr. 11 no.3:356-359 '59.

1. Bolnica za tuberkulozu, Golnik, direktor: prim. dr T. Furlan.
(PNEUMOTHORAX ARTIFICIAL compl.)
(BRAIN dis.)

FURLAN, Tomaz; FINK, Leon

Therapy of maximum lesions. III. Pneumonectomy. Tuberkuloza, Beogr. 12 no.1:3-9 '60.

1. Bolnica za tuberkulozu, Golnik (direktor: dr. T. Furlan)
(PNEUMONECTOMY)

FINK, L.F., inzhener.

New machinery for nonmetallicindustries. Stroi.mat. 3 no.1:19-20 Ja '57. (MLRA 10:3)
(Milling machines)

FINK, L. M., Engr. Cand. Tech. Sci.

Dissertation: "Operation of the Ideal Valve in Frequency Converter Circuits with Active Elements." Moscow Electrical Engineering Inst of Communication, 25 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)

FINK, L. [M.]

USSR/ Electronics - Radio relay systems

Card 1/1 Pub. 89 - 16/27

Authors : Fink, L., laureate of Stalin premium

Title : Modulation methods of radio relay-systems

Periodical : Radio 2, 32-36, Feb 1954

Abstract : Methods of transmitting a great number (several hundred) of conversations simultaneously over a relay line are outlined. This is accomplished by modulating ultra-high frequency radio signals. All the modulations are divided into two types: a) phase frequency modulations, and b) pulse-time modulations. Diagrams; graphs.

Institution: .....

Submitted: .....

FINK, L.M.

Letter to the editors. Radiotekhnika 10 no.10:74-75 O '55. (MLRA 9:1)
(Telecommunication)

FINK, L. M.,

L. M. Fink, in his paper "Transmission Capacity of Discrete Channels", discussed the articles by E. L. Blokh and A. A. Kharkevich (Radiotekhnika Nos. 2 and 7 1955) in which Shannon's formula was analyzed (for the transmission capacity of communications channel.) He pointed out the errors in the results obtained by them.

presented at the 11th Scientific and technical Session of the Leningrad Section VTORiE (Scientific and Technical Scoiety for Radio and Electricity imeni A. S. Popov, dedicated to the celebration of Radio Day, Leningrad, 16-24 Apr 56
Radiotekhnika, No. 7, 1956.

AUTHOR: FINK, L.M.

TITLE: A-U Sci Conf dedicated to "Radio Day", Moscow, 20-25 May 1957 "Multiposition Systems of Frequency Radiotelegraphy,"

PERIODICAL: Radiotekhnika i Elektronika, Vol. 2, No. 9, pp. 1221-1224, 1957, (USSR)

For abstract see L.G. Stolyarov

FINK, L. M.

L. M. FINK, "On potential interference-immunity for an indefinite signal phase." Scientific Session Devoted to "Radio Day", May, 1958, Trudrezervizdat, Moscow, 9 Sep. 58

Inequalities, expressing an optimum criterion for the reception of discrete messages in fluctuating interference, are derived when the initial phase of the high-frequency signal packing is a random quantity. The minimum probability of error is calculated for a broad class of systems, as a function of the ratio of the energy of a signal element to the specific interference power. Principles are determined for the construction of demodulation circuits which would guarantee the realization of potential interference-immunity.

1. Doyldibinyy. Chlen Komiteta [illegible]
Sektsii Radiotekhniki i Radiovyyazi.

FINK, L. M.

L. M. FINK, "On potential interference immunity for a signal fading." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep. 58

An optimum criterion is derived for single receptior of discrete messages in fluctuating interference when the signal is subjected to Rayleigh fading. A minimum probability of error is calculated for certain classes of systems as a function of the ratio of the energy of a signal element to the specific interference power.

FINK, Lev Matveyevich, for Doc of Technical Sci on the basis of dissertation defended 17 Nov 59, entitled: "Elements of the Theory of the Radiotelegraphic Communications." (BMVisSO USSR, 2-61, 31)

20987

6.7110
6.4310

S/058/61/000/004/042/042
A001/A101

AUTHOR: Fink, L.M.

TITLE: Multipositional systems of frequency radiotelegraphy

PERIODICAL: Referativnyy zhurnal. Fizika, no 4, 1961, 421, abstract 4Zh647 ("Sb. tr. Nauchno-tekhn. o-vo radiotekhn. i elektrosvyazi im. A.S. Popova", 1959, no 4, 5 - 28)

TEXT: The author considers conditions for application of various variants of multipositional short-wave radiotelegraphy systems. Multipositional systems make it possible to increase duration of telegraphic signal elements, without reducing the speed of information transmission. This furthers reliability of communication in the presence of fluctuation and pulse interference and, in particular, at multiplex propagation of radiowaves. With increasing speed of information transmission, the part of concentrated (station) noise grows. Calculation formulae are derived for selecting parameters of the optimum radiotelegraph system with high speeds of information transmission.

[Abstracter's note: Complete translation.]

Card 1/1

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S/109/60/005/07/018/024
E140/E163

AUTHORS: Fink, L.M., and Kovalev, N.I.

TITLE: Probability Distribution and Entropy Power of Narrow-Band Noise with Limited Amplitude

PERIODICAL: Radiotekhnika i elektronika, Vol 5, No 7, 1960, pp 1177-1179 (USSR)

ABSTRACT: The spectrum of narrow-band Gaussian noise passing through an inertialess limiter is appreciably broadened. However, in real communication systems the limiter is followed by a narrow band resonant system. This case is solved in the present communication. The maximum value of the noise entropy power occurs with limiting at a level close to the mean-square value of the inertial noise and is very close to the entropy power of an equi-probable distribution, the maximum possible for a random process with limited peak power.
There are 1 figure and 1 table.

SUBMITTED: December 24, 1959

Card 1/1

85571

6.9300 (incl. 2903, 3303, 3703)

S/108/60/015/007/011/013/XX
B010/B070

AUTHOR: Fink, L. M., Member of the Society

TITLE: Throughput of Symmetric Channels With Variable Parameters for Unlimited Band Width

PERIODICAL: Radiotekhnika, 1960, Vol. 15, No. 7, pp. 21-28

TEXT: After giving the results of C. E. Shannon, Ph. M. Woodward, I. L. Davies, V. A. Kotel'nikov, and B. A. Varshaver concerning the throughput of symmetric channels with constant parameters, the main part of the paper deals with the corresponding problem for variable parameters. The throughput C_b is calculated for fluctuations in amplitude and initial phase of the signal as functions of the signal power R_s and noise. signal density R'_p in symmetric binary-coded channels of unlimited band width. The methods of calculation used may be applied to an arbitrary symmetric t-digit code. If τ denotes the duration of the signal elements of the binary code corresponding to the time functions $s_1(t)$ and $s_2(t)$, $(0 \leq t \leq \tau)$, and r

Card 1/3

Throughput of Symmetric Channels With Variable Parameters for Unlimited Band Width

S/108/60/015/007/011/013/XX
B010/B070

denotes the probability of error, the throughput of a binary-coded symmetric transmission channel of unlimited width is expressed by $C'_b = \frac{1}{\tau}[\ln 2 + r \cdot \ln r + (1-r)\ln(1-r)]$ for both constant and variable parameters, provided that the noise signal consists exclusively of white noise. However, in contrast to the constant parameters, the relation between r and x, where $x = \tau \cdot R_s/R'_p$, takes the form $r = \frac{1}{2}\exp(-x/2)$ for fluctuating initial phases of the signal. Here, the signal functions for small probabilities of error are assumed to be orthogonal. C'_b reaches a maximum at a definite finite value of τ, which can be most easily determined graphically: $C'_{b\,max} \approx 0.115 R_s/R'_p$ (for constant parameter, $c_b \approx 0.637\ R_s/R'_p$). For additional amplitude fluctuations of the signal, $r = 1/(x+2)$, and, thus, $C''_{b\,max} \approx 0.067\ R_s/R'_p$. If the binary code is replaced by a t-digit code, $C_{t\,max} = \frac{1}{2} R_s/R'_p$ for constant parameters. For generalizing this result to parameters that are not constant, one proceeds

Card 2/3

85571

Throughput of Symmetric Channels With Variable Parameters of Unlimited Band Width

S/108/60/015/007/011/013/XX
B010/B070

from the equation for the throughput of a discreet t-digit symmetric channel, $c_t = \frac{1}{\tau}\left[\ln r + r\ln\frac{r}{t-1} + (1-r)\ln(1-r)\right]$ and from the relation between r and τ, which can be represented by gamma functions for orthogonal systems, and can be simplified for a large digit number t with the help of Stirling's formula to $r \approx 1 - t^{-\varepsilon}$ with $\varepsilon = 1/(x+1)$. The result is $C_{\infty\,max} \approx 0.368\ R_s/R'_p$ for $t \longrightarrow \infty$. There are 2 figures, 1 table, and 7 references: 5 Soviet.

SUBMITTED: October 1, 1958

Card 3/3

27588
S/108/61/016/010/001/006
D209/D306

6.9500 (1329)

AUTHOR: Fink, L.M., Member of the Society

TITLE: The applicability of binary correcting codes in discrete information transmission channels

PERIODICAL: Radiotekhnika, v. 16, no. 10, 1961, 3 - 9

TEXT: This article was read in June 1961 at the All-Union Scientific Meeting of the Scientific and Technical Society of Radio Engineering and Electrical Communication im. A.S. Popov. By using the "equivalent error probability" the author derives in the present article the conditions of "applicability" or correcting codes. The use of a corrective code for a symmetrical binary channel, in which the probability of detecting the signal is p^+ permits a sequency of n symbols with the probability $Q(n)$ of correct decoding to be transmitted. The quantity of information contained in this sequency, consists of K binary units with $K \leq n$. The quantity

Card 1/6

The applicability of binary ...

$$R = \lim_{n \to \infty} \frac{n - k}{n} \qquad (1)$$

is as usual called the code redundancy. The same quantity of information can be transmitted with the same probability without the correcting code in a binary symmetrical channel provided the probability of correct detection of the symbol be $[Q(n)]^{1/k}$ with increasing n this probability tends to a limit which is called the equivalent probability of correct detection of the symbol and its unity complement

$$p_{eq} = 1 - \lim_{n \to \infty} [Q(n)]^{1/k} = 1 - \lim_{n \to \infty} [Q(n)]^{\frac{1}{n(1-R)}} \qquad (2)$$

is called the equivalent error probability Peg. When $p \ll 1$ the equivalent probability coincides in practice with the "intrinsic error probability" as introduced by V.I. Siforov (Ref. 2: Elektrosvyaz' no. 1, 1957). Since correcting properties of the code are based on the assumption that at least within a certain set of va-

Card 2/6

The applicability of binary ...

lues of p the inequality

$$p_{eq} < p, \qquad (3)$$

takes place, this condition is stated not to be always valid as the criterium of the code suitability because in the majority of real channels p depend on the signal duration τ. Hence p should be compared with the probability p' of the error which would take place if in the real given channel the binary symbols had been transmitted with the speed corresponding to the speed of transmission of information with the correcting code. If the channel is a stationary one and only the white noise is present the condition of applicability of the correcting code is derived as

$$m > \frac{R}{1 - R} \qquad (15)$$

and for group codes this condition is stated to be

$$m \geqslant \frac{n}{K} - 1. \qquad (15')$$

Card 3/6

The applicability of binary ...

For a non-coherent reception and a stationary channel

$$m > \frac{R}{1 - R} \qquad (20)$$

is derived for correcting code, and

$$m > \frac{n}{K} - 1 \qquad (20')$$

for group codes. Although it would seem that the simplest means of satisfying Eq. (20) should be the use of a code with as small a redundancy as possible, it is not so, since then the correcting code does not rectify the error if the original error probability is not very small. From the data obtained for optimum codes as given by D. Slepian (Ref. 3: BSTJ, v. 35, no. 1, 1956) it may be seen that from the 42 analyzed group codes only 8 have been proved to be acceptable. The evaluation of the efficacy of a given correcting code is actually determined by the magnitude po of the limit error probability and the relationship between m and R. For a non-cohe-

Card 4/6

The applicability of binary ...

rent reception only

$$\ln p_o \sim \frac{1}{m - R - Rm} \ln \frac{2^m}{a} - \ln 2 \qquad (21)$$

can be obtained which is the equation of the asymptote for the relationship between $\ln(p_{eq}/p')$ and $\ln p'$. Using the graph of this dependence, the approximate value of the limit probability of errors po can be obtained from Eq. (21) putting $p_{eq} = p' = p_o$. The calculated values of E are given together with approximate values of p_o for the 8 acceptable codes as found by Slepian (Ref. 3: Op. cit.). For better interference suppression properties when using a group code, longer code group codes should be used for large values of m. Since many actual radiochannels are not stationary because of fading the effective changes of p should be taken into account, but all said above remains in force. Since in practice it is very difficult to obtain a complete decorrelation, codes should be used which are acceptable even without decorrelation.

Card 5/6

The simplest means for decorrelation of errors is to use recurrent codes. The applicability of such codes will be discussed in the next article. There are 2 tables, 1 figure, 2 non-Soviet-bloc and 6 Soviet-bloc references. The references to the English-language publications read as follows: D. Slepian, BSTJ, v. 35, no. 1, 1956; D.W. Hagelbarger, BSTJ, v. 38, no. 4, 1959.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communication im. A.S. Popov) [Abstractor's note: Name of Association taken from first page of journal]

SUBMITTED: November 4, 1960

Card 6/6

ZYUKO, A.G.; PETROVICH, N.T., prof., retsenzent; FINK, L.M., prof., red.; KOKORIN, Yu.I., red.; ROMANOVA, S.F., tekhn. red.

[Interference refection and efficiency of communication systems] Pomekhoustoichivost' i effektivnost' sistem sviazi. Moskva, Sviaz'izdat, 1963. 319 p. (MIRA 17:3)

FINK, L.M.; ARENBERG, N.Ya., red.; BELYAYEVA, V.V., tekhn. red.

[Theory of the transmission of discrete communications] Teoriia peredachi diskretnykh soobshchenii. Moskva, "Sovetskoe radio," 1963. 575 p. (MIRA 17:2)

L 17876-63 EWT(d)/BDS AFFTC/ASD/RADC

ACCESSION NR: AP3004273 S/0106/63/000/007/0033/0039

53

AUTHOR: Fink, L. M.; Georgiyev, V. K.

TITLE: Distribution of errors in reception of binary signals in phase-shift-keying system

SOURCE: Elektrosvyaz', no. 7, 1963, 33-39

TOPIC TAGS: phase-shift telegraphy, telegraphy

ABSTRACT: A theoretical investigation of error distribution in a coded train received over a nonfading or Raleigh-type-fading channel is presented. Two methods of telegraph operation are considered: (1) polarity comparison and (2) phase comparison. Only the case of binary signals with the error probability independent of the transmitted symbol is examined. Formulas for wrong-signal-reception probability are developed and discussed. Use of correcting codes is considered. Orig. art. has: 21 formulas and 2 tables.

Card 1/2

PETROVICH, N.T.; FINK, L.M.

Theory of optimum transmission through a channel with fading and new methods for transmission. Izv. AN SSSR. Tekh. kib. no.5: 89-95 S-O '63. (MIRA 16:12)

FINK, L.M.; KOTOV, V.S.

Two methods for the reception of binary frequency telegraphy signals. Radiotekhnika 19 no.2:13-16 F '64.

(MIRA 17:6)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni A.S. Popova.

L 24522-65 EWT(d)/EEC-4/EEC(t)/FSS-2 Pn-4/Pp-4/Pac-4/Pae-2/Pj-4/Pb-4 AFMD(r)/
ASD(a)-5/AFETR/RAEM(i)/RAEM(d)/ESD(dp)/ESD(c)/ESD(gs)/AMD/ESD(t)
ACCESSION NR AM4041628 BOOK EXPLOITATION S/

Fink, L. M.

Theory of transmission of discrete communications (Teoriya peredachi diskretnykh soobshcheniy), Moscow, Izd-vo "Sovetskoye radio", 1963, 575 p. illus., biblio. Errata slip inserted. 7,000 copies printed.

TOPIC TAGS: communications, discrete communications, potential interference resistance, information theory

PURPOSE AND COVERAGE: This monograph is devoted to a consideration of the problems of the theory of the transmission of discrete communications. The basic assumptions of the theory of information and theory of potential interference resistance are cited. Expressions that characterize the passage capacity and reliability of reception in communication channels with constant and variable parameters are given. Recommendations on the selection of optimal systems of signals and optimal methods of reception in relation to the properties of the channels and the noise in them are also made. The book is intended for engineers, graduate students, teachers in higher educational institutions, and advanced students who are acquainted with probability theory.

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L 24522-65
ACCESSION NR AM4041628

TABLE OF CONTENTS [abridged]:

SUB CODE: EC
OTHER: 062 SUBMITTED: 10Dec63 NR REF SOV: 038
Card 2/2

ACC NR: AR6035188 SOURCE CODE: UR/0274/66/000/009/A003/A003

AUTHOR: Fink, L. M.

TITLE: Codes for the elimination of "opposite operation" in binary phase detection

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 9A13

REF SOURCE: Sb. 2-ya Vses. konferentsiya po teorii kodir. i yeye prilozh. Sekts. I. Ch. I. M., B. g., 67-75

TOPIC TAGS: binary code, error correcting code, cyclic coding, binary phase detection, iterative coding

ABSTRACT: Phase manipulation, an optimal method for transmitting discrete messages with binary codes, is not extensively used owing to the phenomenon of "opposite operation," consisting of the occurrence of errors with random phase inversion of the reference signal. The latter is required for coherent detection and is formed on the basis of the signal received. The possibility of eliminating opposite operation by using error-correcting codes without the application of the widely accepted differential phase detection is investigated. The simplest code-eliminating opposite operation is created by attributing a check bit with a constant

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UDC: 621.391.152

ACC NR: AR6035188

value to each code combination. If this bit is received incorrectly, the entire combination is received "in the negative." Maximum length cyclic codes make it possible to decode code combinations in which phase inversion has taken place. It is shown that such codes can possess a relatively low redundancy and entirely exclude all errors when not more than one jump in any one code combination is encountered. For protection against errors unrelated to opposite operation, iterative coding, with the utilization of a code-correcting opposite operation in the first step of the iteration and codes correcting independent errors in the successive steps, should be applied. [Translation of abstract]

[DW]

SUB CODE: 09/

Card 2/2

ACC NR: AP6029461 SOURCE CODE: UR/0108/66/021/008/0029/0036

AUTHOR: Fink, L. M. (Active member); Andronov, I. S. (Active member)

ORG: Scientific-Technical Society of Radio and Communications Engineering im. A.S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Noise resistance of one method of diversity reception

SOURCE: Radiotekhnika, v. 21, no. 8, 1966, 29-36

TOPIC TAGS: diversity reception, radio noise, statistics

ABSTRACT: Diversity reception, which uses the square-law addition of signals, and which provides for effective operation for various statistical characteristics for the radio channel, is reviewed. It is shown that noise resistance when this method of reception is used is only slightly different from the optimum in all cases which are of any practical interest. Orig. art. has: 38 formulas and 1 figure.

SUB CODE: 09, 12/SUBM DATE: 26May65/ORIG REF: 004/OTH REF: 007

Card 1/1 UDC: 621.396.626

FINK, L.M.

Review of N.L.Teplov's book "Noise stability of discrete information transmission systems." Radiotekhnika 20 no.3: 78-79 Mr '65. (MIRA 18:6)

ACC NR: AP7004248 SOURCE CODE: UR/0106/67/000/001/0014/0022

AUTHOR: Kagan, B. D.; Fink, L. M.

ORG: none

TITLE: Method of serial reception in the whole for the codes permitting majority decoding

SOURCE: Elektrosvyaz', no. 1, 1967, 14-22

TOPIC TAGS: binary code, signal reception, majority decoding, digital information, signal noise separation

ABSTRACT: Possibility of suboptimal reception is considered for the codes permitting majority decoding; their trinomial check equations do not intersect. Transmission is examined of discrete information coded in a binary systematic (n, k) code which permits setting up (for each information symbol x_i) r nonintersecting equations that express x_i through other symbols of the form

$$\left.\begin{aligned} x_i &= x_i \\ x_i &= x_{j1} + x_{j2} \\ x_i &= x_{s1} + x_{s2} \\ &\cdots\cdots\cdots \\ x_i &= x_{r1} + x_{r2} \end{aligned}\right\},$$

where modulo 2

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UDC: 621.394.147.3:621.391.833.4

ACC NR: AP7004248

addition is performed. Higher fidelity of reception can be theoretically ensured by using total ("in the whole") information for decoding. However, such a system is practically difficult to materialize. Hence, the information symbols $x_1,\ldots,x_k$ are found through analyzing the values of received signals $\eta_1,\ldots,\eta_n$ (a suboptimal system), with each x_i being determined by an algorithm which is a continuous analog of the discrete algorithm of majority decoding. Formulas for the decision-system algorithm are derived. Signal-noise separation is explored for a cyclic (7, 3) code and for a recurrent code. Orig. art. has: 3 figures and 43 formulas.

SUB CODE: 09, 17 / SUBM DATE: 09Jul66 / ORIG REF: 004 / OTH REF: 001

Card 2/2

KHRISTININ, Viktor Ivanovich [Khrystynin, V.I.]; MILORADENKO, P.F. [translator]; FINK, L.Y.[Fink, L.I.], red.; CHUCHUPAK, V.D., tekhn. red.

[Daily hygienic exercises for women] Shchodenna higienichna gimnastyka dlia zhinok. Kyiv, Derzh. med. vyd-vo URSR, 1961. 40 p. (MIRA 15:3)
(WOMEN—HEALTH AND HYGIENE) (EXERCISE)

FINK, L. YE PA 22/49T36

USSR/Engineering Oct 48
Brick
Construction Material

"The LP-2 (SM-58), Ribbon-Type Brick Press,"
L. Ye. Fink, Engr, ½ p

"Mekh Stroi" No 10

Press is built by "Krasnyy Oktyabr'" plant. Batch production has begun. Capacity is 5,000 bricks per hour. Includes photograph.

[redacted] 22/49T36

FINK, L.YE.

KOGAN, Z.B., inzhener; FINK, L.Ya., inzhener.

Combination screw conveyer vacuum press SM-446. Stroi. i dor.mashinostr.i no.3:16-18 Mr '56. (MLRA 10:1)
(Ceramics) (Power presses)

GOLUBOVICH, S.R., inzhener; FINK, L.Ye., inzhener.

Screw roller device for removing rocks. Strel.i der.mashinostr. no.7:16-17 Jl '56. (MLRA 9:10)
(Ceramic materials)

GOLUBOVICH, Semen Rafailovich, inzh.; FINK, Lazar' Yegudovich, inzh.; BUZHEVICH, G.A., kand. tekhn. nauk, retsenzent; FIRSOVA, T.V., inzh., red.; MATVEYEVA, Ye.N., tekhn. red.

[Equipment for manufacturing slag concrete blocks] Oborudovanie dlia proizvodstva shlakobetonnykh kamnei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 143 p. (MIRA 11:7)
(Concrete blocks)

FINK, L.Ye.; RUSSEN, V.I.

Unit used in brickmaking by means of semidry pressing technique. Stroi i dor.mashinostr. 2 no.8:22-25 Ag '57. (MLRA 10:9)
(Brickmaking machinery)

BUZHEVICH, Grigoriy Abramovich, kand.tekhn.nauk; FINK, Lazar' Yegudovich, inzh.; OGIYEVICH, V.A., kand.tekhn.nauk, retsenzent; NIKITIN, A.G., inzh., red.; MODEL', B.I., tekhn.red.

[Equipment of plants manufacturing large lightweight-concrete products] Oborudovanie zavodov krupnykh legkobetonnykh izdelii. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 174 p. (MIRA 13:12)
(Concrete plants--Equipment and supplies)

FINK, L.M.; KOVALEV, N.I.

Probability distribution and entropy power of narrow-band noise with limited amplitude. Radiotekh. i elektron. 5 no.7:1177-1179 Jl '60. (MIRA 13:6)
(Electronic circuits--Noise)

FINK, L.M.

Carrying capacity of symmetric channels with variable parameters at an unlimited frequency band. Radiotekhnika 15 no.7:21-28 Jl '60. (MIRA 13:7)

1. Deystvitel'nyy chlen nauchno-tekhnicheskogo Obshchestva radiotekhniki i elektrosvyazi im. A.S.Popova.
(Information theory)

FINK, L.Ye., inzh.

Over-all mechanization and automation of processes in manufacturing asbestos-cement products. Stroi. i dor. mashinostr. 5 no.11:13-18 N '60. (MIRA 13:10)

(Automation) (Asbestos cement)

GOLUBOVICH, S.R.; FINK, L.Ye.; TUMARKIN, P.I., inzh.; SHTEYNBERG, A.S., inzh.; GRIZAK, Yu.S., inzh., retsenzent; OTDEL'NOV, P.V., inzh., red.izd-va; TIKHANOV, A.Ya., tekhn. red.

[New equipment for manufacturing building materials] Novoe oborudovanie dlia proizvodstva stroitel'nykh materialov; spravochnoe posobie. Moskva, Mashgiz, 1963. 247 p. (MIRA 17:1)

FINK,M.M.; PENYAGIN,Yu.I.

From experience in the use of grinders. Bum.prom.30 no.9:23-24 S '55. (MIRA 8:12)

1. Solikamskiy tsellyulosno-bumazhnyy kombinat
(Paper making machinery)

MOGIL'NIKOV, I.M., inzh.; FINK, M.M., inzh.

Self-discharging timber truck. Mekh.i avtom.proizv. 16 no.8: 23-24 Ag '62. (MIRA 15:9)
(Lumber—Transportation)

GORODNITSKIY, F.K.; FINK, V.K.

Machine for endurance testing of armature-binding wire.
Zav. lab. 30 no.5:607-608 '64. (MIRA 17:5)

1. Institut betona i zhelezobetona Gosstroya SSSR.

RADKEVICH, P.Ye., prof.; DERIPASKO, P.G.; DMITRIYEVSKIY, L.M.; DAVYDOV, G.D.; SAAKYAN, V.Sh.; FINK, Ye.G.; ATOYAN, P.G., vetvrach.

Poisoning of cattle by corn silage contaminated by pathogenic fungi. Veterinariia 35 no.4:79-81 Ap '58. (MIRA 11:3)

1. Vsesoyuznyy institut eksperimental'noy veterinarii (for Radkevich). 2. Nachal'nik vetotdela (for Deripasko). 3. Starshiy vetvrach vetotdela Groznenskogo oblsel'khozupravleniya (for Dmitriyevskiy). 4. Direktor oblvetbaklaboratorii (for Davydov). 5. Zaveduyushchiy khimicheskim otdelom (for Saakyan). 6. Glavnyy vetvrach Groznenskogo rayona (for Fink). 7. Kolkhoz imeni 1-go Maya (for Atoyan).
(Cattle--Diseases and pests)

CZECHOSLOVAKIA/Human and Animal Physiology (Normal and Pathological). Nervous System. General Problems. T

Abs Jour : Ref Zhur Biol., No 6, 1959, 26951

Author : Fink, Z., Pospishil, M., Sayda, M.
Inst : -
Title : On the Problem of the Mechanism of Reflex Action of Acetylcholine.

Orig Pub : Physiol. bohemosl., 1958, 7, No 3, 264-270

Abstract : No abstract.

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PHASE I BOOK EXPLOITATION GER/6412

Fink, Zdeněk, Docent, Doctor of Medicine; Vratislav Hrdina, Doctor of Medicine; Antonín Jakl, Doctor of Medicine; Miroslav Krejcar, Doctor of Medicine; Milan Pospíšil, Doctor of Medicine; Jiří Tulach, Doctor of Medicine; and Vladislav Vondráček, Doctor of Medicine.

Der Gesundheitsschutz gegen chemische Kampfstoffe (Sanitary Protection Against Chemical Warfare) Berlin, VEB VG, 1962. 219 p. No. of copies printed not given.

Translated from the Czech by G. J. Wojtek.

PURPOSE: This book is intended for physicians and medical students. It may also be useful in the special training of medical corpsmen.

COVERAGE: The book presents basic data on poisonous weapons, vesicant agents, and irritant toxic agents. It discusses the present state of development and future possibilities for new types of

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toxic agents and cholinergic compounds, as well as paralyzing poisons, smokescreen producing agents, and incendiaries. Attention is given to toxicological problems arising in "chemical mixta" ("chemical" or "surgical mixta" refer to sicknesses which result from the combination of an injury and a simultaneous lesion of the organism by chemical weapons). Artificial respiration, methods of protection against toxic agents, and methods for detecting toxic agents are also discussed. There are 166 references, of which 2 are Soviet.

TABLE OF CONTENTS:

PINK, Zdenka, doc. MUDr.

Medical protection from the effect of substances used in chemical warfare. Zdrav. aktuality 12[illegible]:1-152 '63.

CZECHOSLOVAKIA

Z. FINK and M. SAJDA, Military Medical Research and Postgraduate Institute (Vojensky lekarsky vyskumny a doskolovaci ustav) J.Ev.Purkyne, Hradec Kralove.

"Reactions Elicited by Organic Phosphates in Some Interoceptive Systems."

Prague, Casopis Lekaru Ceskych, Vol 102, No 7, 15 Feb 63; pp 179-182.

Abstract [English summary modified]: Experiments with sarin and tabun in cats and rabbits (0.05 to 5 mg.) to general circulation or circulation of isolated ileal loop, rabbit ear, kidney, carotid sinus. Early phase is typical of systemic acetylcholine accumulation; later repeated administration of organic phosphate then acetylcholine may cause shock and death; reflex mechanism is postulated, suggesting a participation of nervous system in intoxications with organic phosphates. Four kymograms; 8 Soviet, 5 Czech and 5 Western references.

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CZECHOSLOVAKIA

FINK, Z.; URBAN, R.; Research Institute for Military Medicine, and J.E. Purkyne Post-Graduate Training Institute (Vojensky Lekarsky Vyzkumny Ustav a Doskolovaci Ustav J.E. Purkyne), Hradec Kralove.

"Changes in the Activity of Acetylcholine and Acetylcholine Esterase in the Brain of Rat in the Time Dynamics Resulting from the Effect of Atropine and Benactyzine."

Prague, Ceskoslovenska Fysiologie, Vol 15, No 5, Sep 66, pp 416 - 417

Abstract: Biological determination of the contents of various parts of the brain of acetylcholine (ACH) and of acetylcholine esterase (ACHE) is described. Atropine reduces the amount of ACH in basal ganglia and in the mesencephalon; the effect of benactyzine is shown most distinctly in the cortex and the cerebellum. Histochemical findings of ACHE activity agree with the biological findings; the two drugs discussed reduce the activity of the enzyme. 6 Western references. Submitted at 14 Days of Pharmacology at Smolenice, 17 Feb 66.

1/1

FINK, Zd.; technika spoluprace TRILETA, Vera

Influence of some anticholinergic compounds on cerebral acetylcholine in rats. Cas. lek. cesk. 102 no.12:305-309 22 Mr '63.

1. Vojensky lekarsky vyzkumny a doskolovaci ustav JEvP v Hradci Kralove.

(BRAIN) (ACETYLCHOLINE) (BENACTYZINE) (ATROPINE)
(ISOFLUROPHATE) (OXIMES) (PYRIDINES)

The Application of a Flow Counter for the Measurement of the Moisture Permeability of Films From Synthetic Materials With the Aid of Water Marked With Tritium

individual reservoirs of radioactive water and a counter each. The radioactive water quantity passed through the synthetic material film goes through the counter along with the ethanol vapor and is measured at the radiometer of the type B. The diagram of a steam diffusion as a function of time through polyethylene films (0.3 mm and 0.1 mm thickness) is given (Fig 4). The measuring range of the counter can be controlled by a change in the quantity of the ethanol vapor flow. There are 4 figures and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut kabel'noy promyshlennosti, Moskva, Akademiya nauk SSSR Institut fizicheskoy khimii, Moskva
(Institute of Cable Industry Moscow, Academy of Sciences, USSR, Institute of Physical Chemistry, Moscow)

SUBMITTED: December 1, 1958

5(4) 15(8) SOV/76-33-7-30/40

AUTHORS: Chmutov, K. V., Finkel', E. E.

TITLE: The Effect of γ-Radiation of Co^{60} on the Permeability of Polyethylene for Steam

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7, pp 1648 - 1652 (USSR)

ABSTRACT: Plastics have recently found wide application for line insulation and are e.g. in reactor construction, exposed to radiations which are capable of changing insulation properties. Radiation-chemical treatment is also carried out for improving the resistivity of polyethylene insulations to heat (Ref 1). For this reason, it should be determined whether an improvement of the mechanical properties would not deteriorate other properties. The authors investigated pure polyethylene (I) with a molecular weight of 20000 - 25000 (trade-mark OKhK-501, VTU MKhP 4138-55) in the form of thin films (0.030-0.035 cm thick). The films were checked by means of the apparatus "K-2000" of the fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov), which delivers Co^{60} γ-rays with an activity of about 20000 s-equivalent to Ra (Ref 2) at doses of 49-299 million r. Experimen-

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